

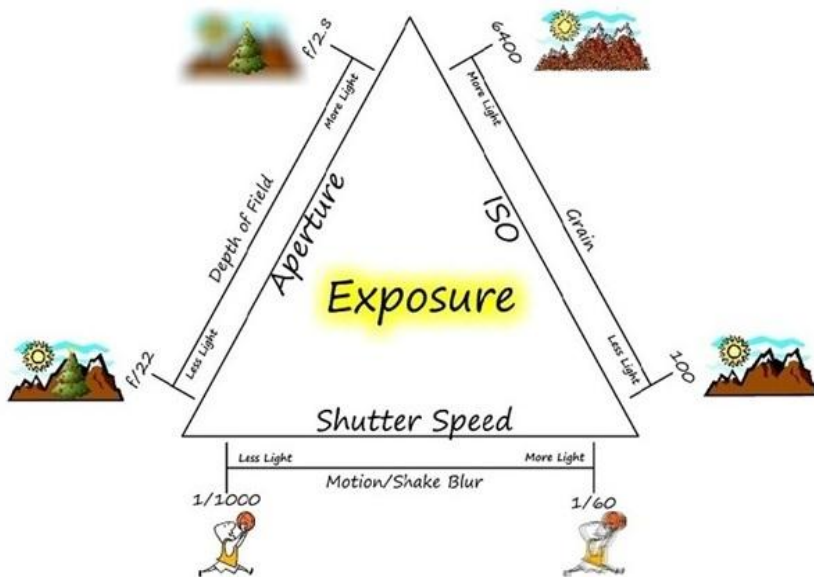
Exposure

Exposure

When you think of photography, you must immediately think of exposure. Exposure is a critical element that determines what is actually recorded on the image sensor \ film.

There are three adjustable elements that control the exposure - ISO, Aperture and Shutter Speed.

When these three elements are combined, they represent a given exposure value (EV) for a given setting.

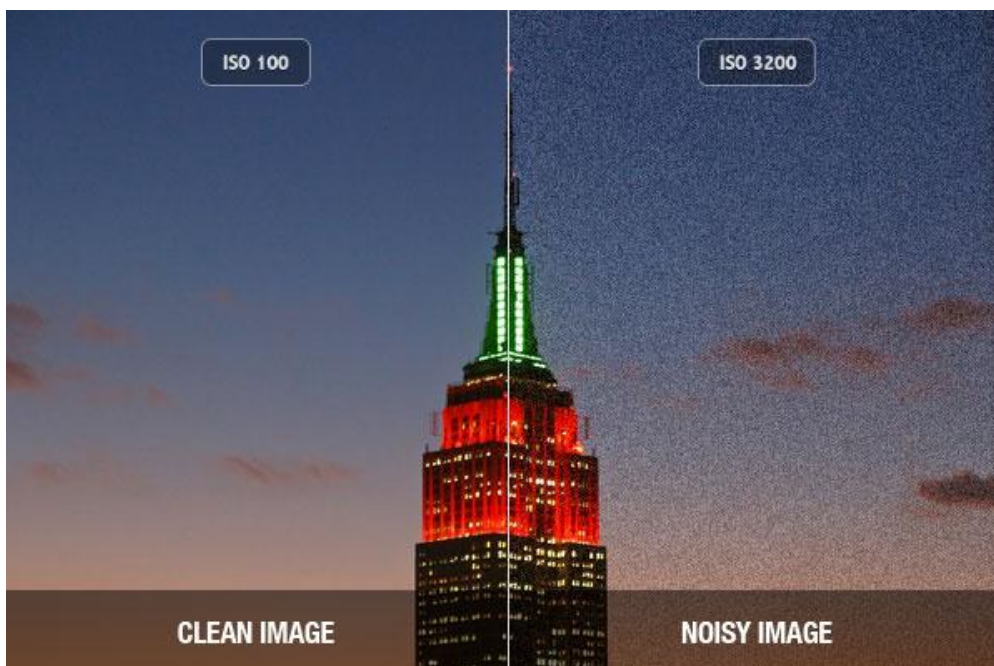


Any change in any one of the three elements will have an impact on how the remaining two elements react to expose the image sensor and how the image ultimately looks.

It is impossible to make an independent change in one of the elements and not obtain an opposite effect in how the other elements affect the image (unless you use full manual mode), and ultimately change the EV.

ISO

ISO (ASA if using film) ratings determine the image sensor's sensitivity to light, each value of the rating represents a "stop" of light, and each incremental ISO number (up or down) represents a doubling or halving of the sensor's sensitivity to light.



The lower the ISO number the better the quality the image but the more light is needed to produce it as is shown in the image opposite.

To get this light either the aperture needs to be made larger by selecting a lower f-number or the shutter needs to be slower i.e. open for longer.

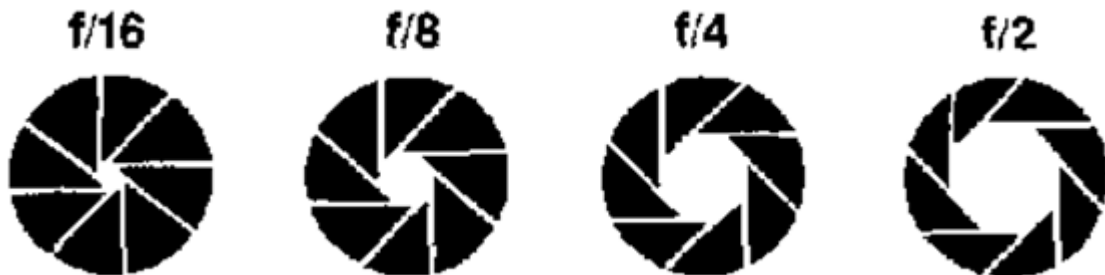
If you use a lower f-number the shallower the depth of field or if using the slower shutter speed means the

shutter is open for longer which can result in blurred images due to camera shake. A lens with optical stabiliser will help reduce this.

Aperture

The Aperture controls the lens' diaphragm, which controls the amount of light travelling through the lens to the film plane \ digital sensor.

The aperture setting is indicated by the f-number, where each f-number represents a "stop" of light. The lower the number the more the light is allowed through to the film \ sensor.

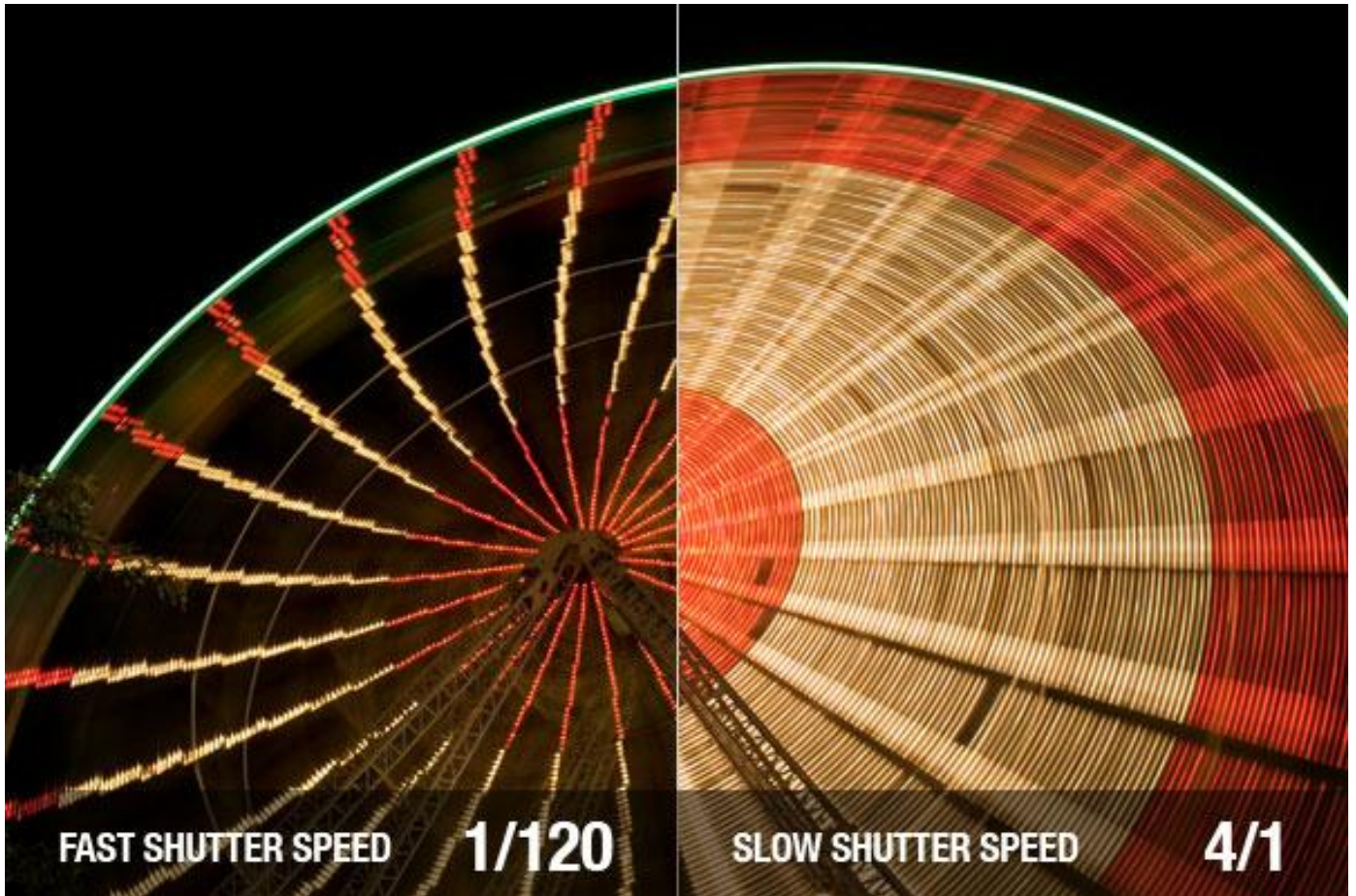


Aperture controls the depth of field as can be seen in the image below.



Shutter Speed

The Shutter Speed indicates the speed in which the curtain opens then closes, and each shutter speed value also represents a “stop” of light. The shutter speed is measured in fractions of a second faster shutter speeds freeze movement where as slower shutter speeds blur motion.



What settings to use

Depending on what you want to achieve determines what settings to use.

If you want to blur the background by having a shallow depth of field then your primary element to use would be aperture with a setting of around f2.8.

If the next important factor is the quality of the image and the level of light permits then you would use the ISO element and move the value up and down accordingly.

If the light does not permit or the subjects movement is important then you would use Shutter speed. To freeze motion you need to use a faster shutter speed or to blur movement then use a slower shutter speed.